

Rating: Buy  
S&P 500: 1105

## **Marathon Oil Corporation** **Tilting to Refining**

<i>Symbol</i>	MRO	<i>Ebitda Next Twelve Months ending 6/30/05 (US\$mm)</i>	3,600
<i>Rating</i>	Buy	<i>North American Natural Gas/Ebitda (%)</i>	23
<i>Price (US\$/sh)</i>	35.35	<i>Natural Gas and Oil Production/Ebitda (%)</i>	74
<i>Pricing Date</i>	8/26/04	<i>Adjusted Reserves/Production NTM</i>	7.3
<i>Shares (mm)</i>	346	<i>EV/Ebitda</i>	5.1
<i>Market Capitalization (US\$mm)</i>	12,200	<i>PV/Ebitda</i>	5.6
<i>Debt (US\$mm)</i>	6,100	<i>Undeveloped Reserves (%)</i>	30
<i>Enterprise Value (EV) (US\$mm)</i>	18,300	<i>Natural Gas and Oil Ebitda (US\$/boe)</i>	21.90
<i>Present Value (PV) (US\$mm)</i>	20,300	<i>Present Value Proven Reserves(US\$/boe)</i>	14.40
<i>Net Present Value (US\$/share)</i>	41	<i>Present Value Proven Reserves(US\$/mcf)</i>	2.40
<i>Debt/Present Value</i>	0.30	<i>Earnings Next Twelve Months (US\$/sh)</i>	3.78
<i>McDep Ratio - EV/PV</i>	0.90	<i>Price/Earnings Next Twelve Months</i>	9
<i>Dividend Yield (%/year)</i>	2.8	<i>Indicated Annual Dividend (US\$/sh)</i>	1.00

Note: Estimated cash flow and earnings tied to one-year futures prices for oil, natural gas and refinery crack.  
Reported results may vary widely from estimates. Estimated present value per share revised only infrequently.

### **Summary and Recommendation**

We continue a Buy rating on the common shares of **Marathon Oil (MRO)** on the basis of an improved industry outlook for refined products and for oil and gas production. By year end, the company expects to buy out its 38% partner in a U.S. Midwest refining/marketing business well positioned to handle increasing heavy oil imports from Canada. Stronger downstream representation comes at the expense of production particularly as assets have been sold to help finance the shift. Though production will soon be little more than half the value of the company we illustrate a calculation that the current stock price corresponds to present value assuming a 7% real return at a constant real oil price less than \$30 a barrel.

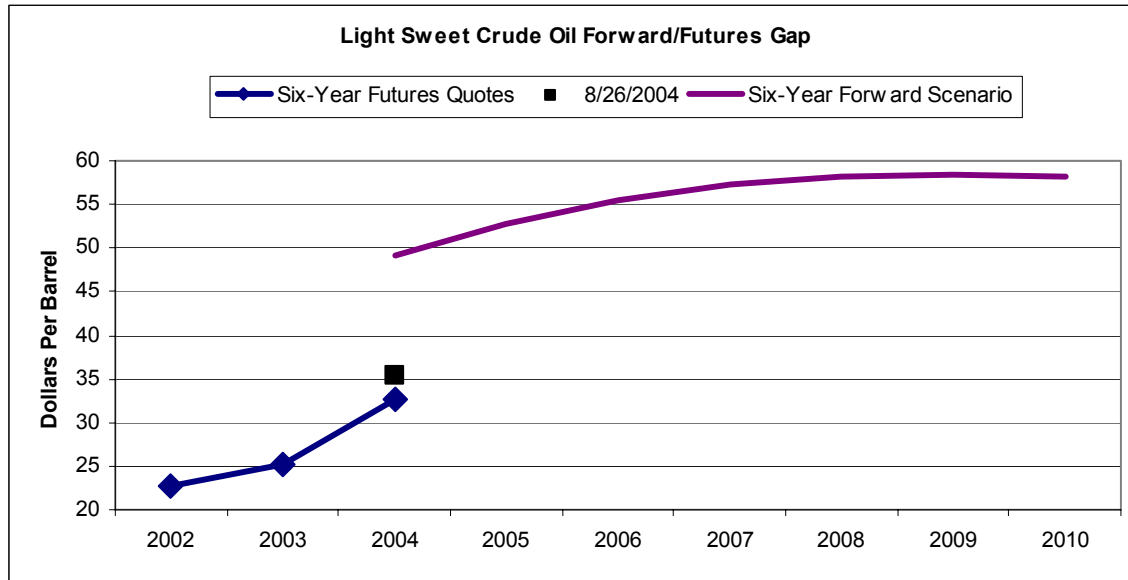
### **Moderate Oil Price Scenario**

The value of the company depends in large part on the future price of crude oil. Publicly traded in the commodity markets, futures contracts for delivery over the next six years continue in a steep uptrend. Whether the trend will slow for awhile we cannot know. Our scenario is that a move that began in the low \$20 and is now in the mid \$30 could reach \$50 (see chart [Light Sweet Crude Oil Forward/Futures Gap](#)).

To construct the scenario we assumed oil would peak in 2010 at \$50 in constant dollars. That is more moderate than the peak in early 1981 at more than \$80 in constant dollars. Then we applied 3% per year inflation and calculated six-year averages to build a forward curve.

Economics support the price trends. Oil demand is strong with world economic growth paced by developing countries, especially China. Supply growth is limited as spare capacity has virtually disappeared. The largest producing fields in the Middle East are now mature. It will take time, large amounts of capital and a secure political climate to boost producing rates.

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Monetary factors favor oil investment as interest rates below inflation drive investors to real assets for protection against the dollar losing value. If similar past periods are any guide, the authorities may not raise interest rates above inflation for the rest of the decade.

Environmental factors favor higher oil and gas price. Coal is still a quarter of world primary energy supply. Cleaner oil and gas are undervalued as long as we tolerate environmentally disadvantageous coal.

Political factors favor higher oil price in consuming countries and producing countries. Consuming governments often resort to artificial forces to hold down oil price that can appear to work temporarily.

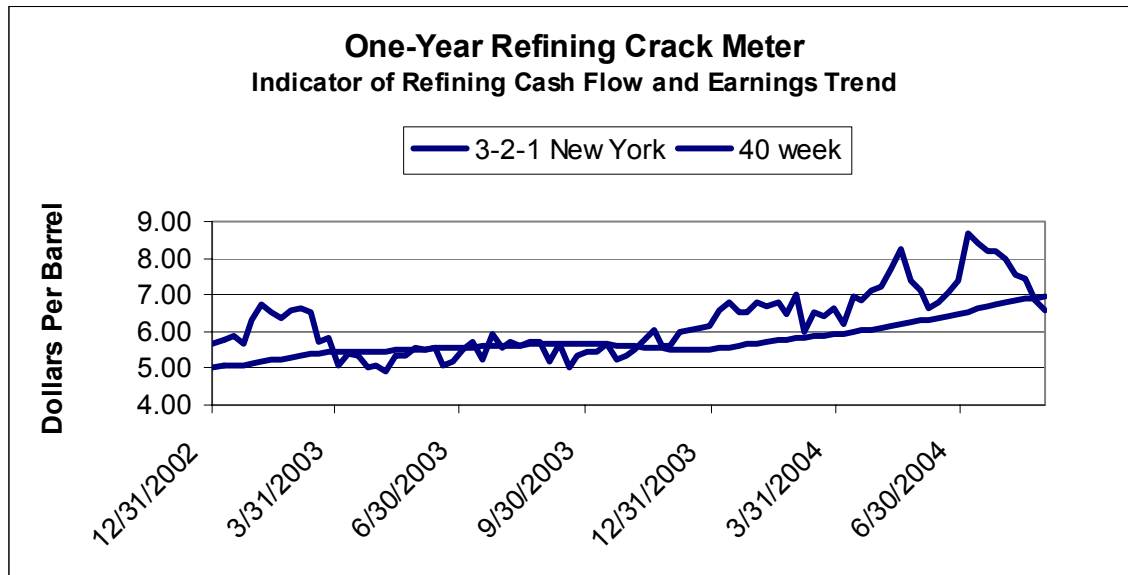
In producing countries we have seen time and again that oil production goes down when international oil companies are not welcome. After Iran, Iraq and Venezuela, now Saudi Arabia appears vulnerable to political change that may bring about production decline.

Too much of a gain in oil price might cause problems of economic adjustment though we think much of the concern expressed is exaggerated. Nonetheless we have a threshold of 60% gain in monthly price compared to a year earlier when we start to become concerned about weak demand for oil. October futures currently near \$43 a barrel would have to remain above \$52 for the 60% threshold to be breached.

### **Refining Crack on 40-Week Average**

About a third of projected cash flow for Marathon would be generated by downstream businesses, primarily refining/marketing of petroleum products. The unusually strong trend in expected future margin, the one-year refining crack, has softened in recent days (see chart [One-Year Refining Crack Meter](#)).

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Breaking the 40-week average can be a sign of a change in trend. Margin expectations cannot increase indefinitely. The current level remains attractive. Yet our indicator is not as complete as we wish. We only have public quotes of gasoline futures through March 2005. As a result the indicator may now have a seasonal bias because we estimate the all-important summer gasoline price at the March 2005 futures level. In the end, futures markets may be too immature to give a reliable indication of margin expectations for the next year. In a judgmental sense, we remain optimistic about the prospects for refining/marketing. Continued strong demand for products implies a shifting mix in crude oil to heavier grades that are the incremental source of new supply. Our sense is that when heavier crude is needed, refiners do well.

### **One-Year Futures Point to Higher Cash Flow and Profits**

As our next twelve months (NTM) cash flow model moves ahead to the period ending June 30, 2005 expectations also advance mainly because of advancing one-year futures. We relate natural gas and oil price to the quotes for commodities traded on the New York Mercantile Exchange (see table [Next Twelve Months Operating and Financial Estimates](#)).

Investors who want calendar year estimates can find 2004 in the table. For 2005 we suggest using the next twelve months as a rough estimate. Estimates can change frequently along with oil markets.

### **Past Profits Demonstrate Commodity Price Correlation**

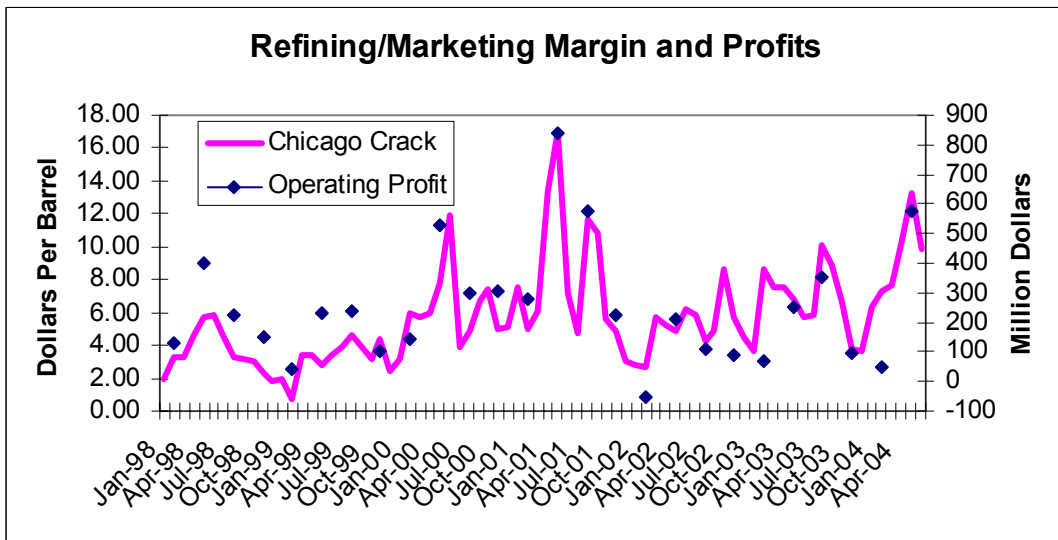
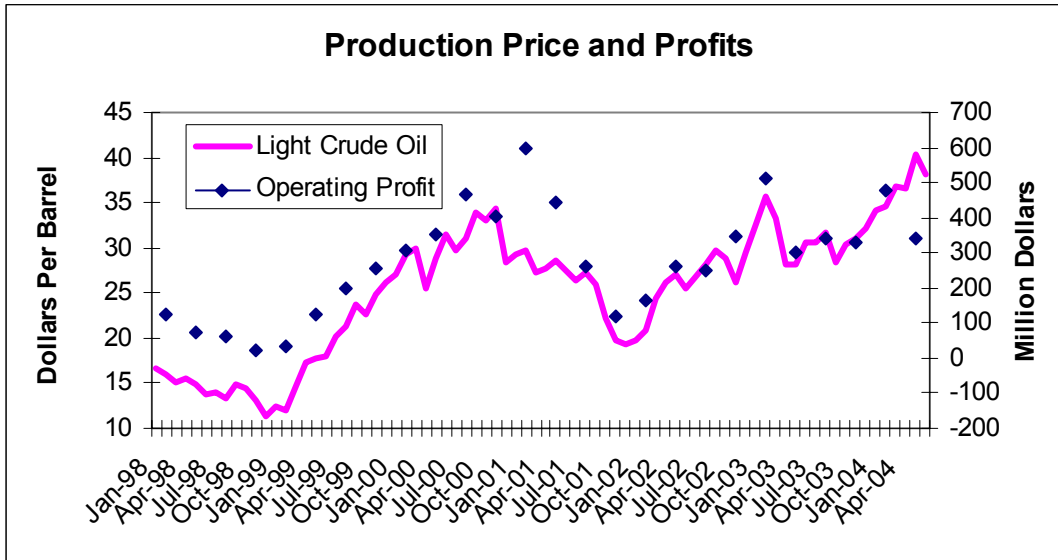
No surprise that oil price accounts for much of the fluctuation in upstream earnings (see chart [Production Price and Profit](#)). The deviation of the most recent quarter from the pattern appears to reflect a non-operating charge for adjusting a North Sea natural gas contract to estimated future price compared to contract price. Similarly, the Chicago crack spread accounts for much of the fluctuation in earnings for Marathon's Midwest refining/marketing business (see chart [Refining/Marketing Margin and Profit](#)).

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**Marathon Oil Corporation**  
**Next Twelve Months Operating and Financial Estimates**

	<i>Q1</i>	<i>Q2</i>	<i>Q3E</i>	<i>Q4E</i>	<i>Year</i>	<i>Q1E</i>	<i>Q2E</i>	<i>Next</i>
	<i>3/31/04</i>	<i>6/30/04</i>	<i>9/30/04</i>	<i>12/31/04</i>	<i>2004E</i>	<i>3/31/05</i>	<i>6/30/05</i>	<i>Twelve</i>
								<i>Months</i>
								<i>6/30/05</i>
<b>Volume</b>								
Natural Gas (mmcf)								
U.S. (or North America)	701	641	628	616	<b>648</b>	616	603	<b>616</b>
Overseas (or Int'l)	435	324	318	361	<b>360</b>	361	304	<b>336</b>
Total	1,136	965	946	977	<b>1,008</b>	977	907	<b>952</b>
Oil (mbd)	184	178	174	174	<b>178</b>	174	171	<b>174</b>
Total gas & oil (bcf)	204	185	183	186	<b>758</b>	182	176	<b>727</b>
Total gas & oil (mbd)	373	339	332	337	<b>346</b>	337	322	<b>332</b>
<b>Price</b>								
Natural gas (\$/mcf)								
Henry Hub (\$/mmbtu)	5.64	6.10	5.57	5.95	<b>5.82</b>	6.78	6.00	<b>6.08</b>
U.S. (or North America)	4.71	5.02	4.58	4.90	<b>4.80</b>	5.58	4.94	<b>5.00</b>
Overseas (or Int'l)	3.46	3.07	3.56	3.42	<b>3.39</b>	3.32	3.22	<b>3.38</b>
Total	4.23	4.37	4.24	4.35	<b>4.29</b>	4.75	4.37	<b>4.43</b>
Oil (\$/bbl)								
WTI Cushing	35.23	38.34	44.45	42.74	<b>40.19</b>	41.50	40.25	<b>42.24</b>
Worldwide	28.98	29.48	34.18	32.87	<b>31.35</b>	31.91	30.95	<b>32.49</b>
Total gas & oil (\$/mcf)	4.53	4.65	5.01	4.93	<b>4.77</b>	5.04	4.79	<b>4.94</b>
NY Harbor 3-2-1 (\$/bbl)	6.98	11.71	7.20	5.60	<b>7.87</b>	6.68	6.76	<b>6.56</b>
<b>Revenue (\$mm)</b>								
Natural Gas								
U.S. (or North America)	300	293	265	277	<b>1,136</b>	309	271	<b>1,123</b>
Overseas (or Int'l)	137	91	104	114	<b>445</b>	108	89	<b>415</b>
Total	437	383	369	391	<b>1,581</b>	417	360	<b>1,538</b>
Oil	485	478	549	527	<b>2,039</b>	501	481	<b>2,058</b>
Other	9,770	11,731	11,731	11,731	<b>44,964</b>	11,731	11,731	<b>46,925</b>
Total	10,693	12,592	12,649	12,650	<b>48,583</b>	12,649	12,573	<b>50,521</b>
<b>Expense</b>								
Fixed	166	130	100	100	<b>498</b>	100	100	<b>402</b>
Variable	166	130	139	139	<b>575</b>	139	128	<b>545</b>
Other	9,599	11,302	11,467	11,526	<b>43,894</b>	11,504	11,483	<b>45,981</b>
<b>Ebitda (\$mm)</b>								
Exploration and Production	590	600	678	679	<b>2,547</b>	679	614	<b>2,650</b>
Other	171	429	264	205	<b>1,069</b>	227	248	<b>944</b>
Total Ebitda	761	1,029	942	884	<b>3,616</b>	906	862	<b>3,593</b>
Exploration	25	27	27	27	<b>106</b>	40	40	<b>134</b>
Deprec., Deplet., & Amort.	302	308	308	308	<b>1,226</b>	308	320	<b>1,244</b>
Other non cash		100			<b>100</b>			<b>-</b>
<b>Ebit</b>	434	594	607	549	<b>2,184</b>	558	502	<b>2,215</b>
Interest	38	51	51	51	<b>191</b>	51	51	<b>204</b>
<b>Ebt</b>	396	543	556	498	<b>1,993</b>	507	451	<b>2,011</b>
Income Tax	139	190	195	174	<b>698</b>	177	158	<b>704</b>
<b>Net Income (\$mm)</b>								
Exploration and Production	478	343						
Other	64	357						
Unallocated	(285)	(347)						
Total	257	353	361	324	<b>1,296</b>	329	293	<b>1,307</b>
<b>Shares (millions)</b>	310	346	346	346	<b>338</b>	346	346	<b>346</b>
Per share (\$)	0.83	1.02	1.04	0.94	<b>3.83</b>	0.95	0.85	<b>3.78</b>
Ebitda Margin (E&P)	64%	70%	74%	74%	<b>70%</b>	74%	73%	<b>74%</b>
Tax Rate	35%	35%	35%	35%	<b>35%</b>	35%	35%	<b>35%</b>

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**Present Value at Real Price and Real Return**

NTM estimates determine to a large extent the first year of projected cash flow that we discount to present value (see table Present Value of Oil and Gas Reserves). The calculation is set up on the basis of a barrel of proven reserves, 0.70 developed and 0.30 undeveloped.

While there are many assumptions that could be discussed, discount rate and oil price are especially important. Price escalation and discount rate interact. In this case we make the simplification of dealing in constant dollars. That assumes price escalation, cost escalation and discount rate are all net of inflation.

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For discount rate we use a 7% real return per year on an unlevered basis. That means a buyer who pays present value would earn 7% per year above inflation if all the projections were to materialize as stated.

First year oil price is from the futures market. We hold it constant at an arbitrary level thereafter. The assumed price listed in the upper right hand corner is the commonly quoted benchmark Light, Sweet Crude. A price of \$35 a barrel leads to present value of future cash flow from a barrel of reserves equal to \$13.00 (see box in right hand column).

**Marathon Oil Corporation**  
**Present Value of Oil and Gas Reserves**

Volume Decline (%/yr):	15	Nymex Oil Price Post 2005 (\$/bbl)	35
Volume Enhancement (%/yr):	7	Price/Nymex Post 2005 (%):	85
Variable Cost (%):	16	Real Discount Rate (%/yr):	7.0
Capex/Cash Flow (%):	12		

Year	Basic (bbl)	Volume Enhanced (bbl)	Total (bbl)	Price (\$/bbl)	Revenue (\$)	Fixed Cost (\$)	Var. Cost (\$)	Cash Flow (\$)	Cap Ex (\$)	Free CF (\$)	Disc Factor	Present Value (\$)
Total 2005 through 2019; years ending on 6/30												
	0.700	0.300	1.000	29.77	29.77	5.61	4.61	19.55	1.69	17.86	0.73	<b>13.00</b>
2005	0.116	0.000	0.116	29.66	3.45	0.37	0.54	2.54	0.31	2.24	0.97	2.16
2006	0.099	0.010	0.108	29.79	3.22	0.37	0.50	2.35	0.28	2.07	0.90	1.87
2007	0.084	0.017	0.101	29.79	3.00	0.37	0.46	2.16	0.26	1.90	0.84	1.61
2008	0.071	0.023	0.094	29.79	2.79	0.37	0.43	1.98	0.24	1.75	0.79	1.38
2009	0.060	0.027	0.087	29.79	2.59	0.37	0.40	1.82	0.22	1.60	0.74	1.18
2010	0.051	0.030	0.081	29.79	2.41	0.37	0.37	1.67	0.20	1.47	0.69	1.01
2011	0.043	0.032	0.075	29.79	2.24	0.37	0.35	1.52	0.18	1.34	0.64	0.86
2012	0.037	0.033	0.070	29.79	2.09	0.37	0.32	1.39	0.00	1.39	0.60	0.84
2013	0.031	0.028	0.059	29.79	1.77	0.37	0.27	1.12	0.00	1.12	0.56	0.63
2014	0.026	0.024	0.050	29.79	1.50	0.37	0.23	0.89	0.00	0.89	0.53	0.47
2015	0.022	0.020	0.043	29.79	1.27	0.37	0.20	0.70	0.00	0.70	0.49	0.34
2016	0.019	0.017	0.036	29.79	1.08	0.37	0.17	0.54	0.00	0.54	0.46	0.25
2017	0.016	0.015	0.031	29.79	0.91	0.37	0.14	0.40	0.00	0.40	0.43	0.17
2018	0.014	0.012	0.026	29.79	0.77	0.37	0.12	0.28	0.00	0.28	0.40	0.11
2019	0.012	0.011	0.022	29.79	0.66	0.37	0.10	0.18	0.00	0.18	0.37	0.07

**Present Value per Barrel Leads to Present Value per Share**

We illustrate the calculation of Net Present Value (NPV) in a sensitivity table where each column is headed by a different oil price (see table [Net Present Value Calculation](#)). Oil price corresponds to present value per barrel which then leads step by step to the final result. The price of \$35 a barrel corresponds to our standardized present value of \$41 a share. In reverse fashion, for a present value of \$34, near the current stock price, the corresponding constant real oil price would be \$30.

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**Marathon Oil Corporation**  
**Net Present Value Calculation**

Constant Oil Price (\$/bbl):	30	35	40	50
Present Value per Barrel (\$):	11.00	13.00	15.00	18.90
Oil and Gas Reserves (million barrels equivalent):	1,042	1,042	1,042	1,042
Present Value of Oil and Gas Reserves (\$mm):	11,500	13,500	15,600	19,700
Short Life Uplift (\$mm):	1,400	1,400	1,400	1,400
Present Value of Other Businesses (\$mm):	5,300	5,300	5,300	5,300
Total Present Value (\$mm):	18,200	20,200	22,300	26,400
Debt (\$mm):	6,100	6,100	6,100	6,100
Present Value of Equity (\$mm):	12,100	14,100	16,200	20,300
Shares (mm):	346	346	346	346
Net Present Value (\$/sh):	35	41	47	59

**Expected Downstream Acquisition Proceeds**

The wheels are turning toward completing the acquisition by year end of its partner's 38% interest in Marathon's Midwest refining/marketing business. The price is about \$3.2 billion including about 10% in Marathon stock.

When the deal is done a minority interest deduction will no longer offset a portion of the reported profits that reach the bottom line for the whole company. The deal should enhance earnings while cash flow multiple and ratio of debt would increase. The proportion of unlevered cash flow accounted for by production, now about 74% for the next twelve months, may decline to perhaps 54%.

The main benefit of the transaction is that Marathon will have a free hand in further capitalizing on opportunities in the business. The two partners achieved better operations working together. Then as the venture matured, there appears to have been less agreement perhaps because each party was positioning itself for the negotiations for one to sell out to the other. The business is a leading regional player that should be profitable as it is run by Marathon and may be an enticing target of consolidation by a global competitor.

Kurt H. Wulff, CFA

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